No books, notes or graphing calculators. Turn off your cell phones.

Differentiate the following functions. Each question is graded *right* or *wrong* - no partial credit. Check your answers!

(2)   1. $y(t) = \sqrt{\dfrac{t^4 - 6}{arcsin(t^3)}}$

(2)   2. $f(x) = arctan(\ln x)$

(2)   3. $f(x) = \dfrac{e^{2x} \cdot \sqrt[3]{(x-1)^3}}{(x^2+1)(x-1)^2}$

(2)   4. $f(x) = (\sin x)^{\cos x}$

(2)   5.   Find the second derivative of $\sec x$.